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### REMARKS

The Office Action of May 16, 2003 has been received and carefully reviewed. It is submitted that, by this Amendment, all bases of rejection and objection are traversed and overcome. Upon entry of this Amendment, Claims 1-31 remain in the application. New claims 32-49 have been added in order to set forth specific additional specific embodiments of Applicants' invention.

The disclosure stands objected to under 35 U.S.C. 112, first paragraph, and claims 12 and 26 stand rejected under 35 U.S.C. 112, first paragraph, as the Examiner states that poly(acrylamide-acrylic acid) and poly(2-hydroxyethyl methacrylate-methacrylic acid) do not contain any hydrophobic monomers.

The specification has been amended to remove poly(acrylamide-acrylic acid) and poly(2-hydroxyethyl methacrylate-methacrylic acid) from the exemplary list of copolymers. Additionally, claims 12 and 26 have been amended to remove the recitation of poly(acrylamide-acrylic acid) and poly(2-hydroxyethyl methacrylate-methacrylic acid). With the noted amendments to the specification and to claims 12 and 26, Applicants respectfully submit that the rejections under 35 U.S.C. 112, first paragraph, have been traversed and overcome.

Claims 2 and 19 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Examiner states that the duration of the continuous release recited in claims 2 and 19 is unknown.

Claims 2 and 19 have been amended to clarify that fluoride is released. The Applicants' specification recites that fluoride is released into the oral environment. Figures 9 and 10 and the corresponding description in the specification show the results of fluoride release testing. These results show that fluoride is released. As such, Applicants respectfully submit that the rejection of claims 2 and 19 under 35 U.S.C. 112, second paragraph, has been traversed and overcome.

Claims 7, 8, 10, and 22-24 stand rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which the applicant regards as the invention. The Examiner states that the word "derivative" is indefinite because carbon dioxide is a derivative of all organic compounds.

Claims 7, 8, 10, and 22-24 have been amended to more particularly point out the type of derivative included in the list of monomers as provided in each claim. Original claims 7, 8, 22, and 23 recite a hydrophilic monomer selected from a group of monomers, including "derivatives" of these monomers. In these claims, the word "hydrophilic" has been recited to further describe the derivatives. Original claims 10 and 24 recite a hydrophobic monomer selected from a group of monomers, also including "derivatives" of these monomers. In these

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claims, the word "hydrophobic" has been recited to further describe the derivatives. As such, Applicants respectfully submit that the rejection of claims 7, 8, 10, and 22-24 under 35 U.S.C. 112, second paragraph, has been traversed and overcome.

Claims 1-31 stand rejected under 35 U.S.C. 102(b) as being anticipated by Tezuka et al. (4,089,830), Wilson et al. (4,758,612), Wilson et al. (4,569,954), Englebrecht (4,872,936), Okayabashi et al. (5,051,453) Kato et al. (5,520,725) or National Res Dev Corp (GB 1,507,981). Claims 1-31 also stand rejected under 35 U.S.C. 103(a) as being unpatentable over any of the above references.

The Examiner states that Tezuka discloses a glass ionomer cement and acrylic acid-methylmethacrylate copolymer. The Examiner points out that Wilson '612 recites copolymers of acids with acrylonitrile, hydrocarbons and ethers, and fluoroaluminosilicate and that Wilson '654 teaches acid-vinyl chloride copolymer and fluoroaluminosilicate glass powder. Further, the Examiner states that Englebrecht divulges phosphorus containing acidic polymers and ionomer cement. The Examiner states that Okayabashi reveals aluminofluorosilicate and copolymers and that Kato displays fluoroaluminosilicate glass powder and carboxylic acids copolymerized with acrylonitrile, methacrylic ester, vinyl chloride or vinyl acetate. Finally, the Examiner states that National Res Dev Corp presents styrene-maleic anhydride copolymer and aluminosilicate. The Examiner argues that a reference that clearly names the claimed species anticipates the claim no matter how many other species are named.

Regarding the section 103(a) rejection, the Examiner states that the references have already been discussed in regard to the 102(b) rejection. He further asserts that since picking and choosing may be entirely proper in the context of an obviousness rejection, it would have been obvious to one skilled in the art, at the time of the invention, to select Applicants' copolymers from a list of equivalents.

Applicants invention as defined in currently amended independent claims 1 and 18 recites that the hydrophilic monomer(s) and the hydrophobic monomer(s) are present in a predetermined ratio of hydrophilic monomer to hydrophobic monomer, wherein the higher the amount of hydrophilic monomer in the ratio, the more water soluble the composite composition, and the higher the amount of hydrophobic monomer in the ratio, the more water insoluble the composite composition.

The Examiner is directed to the specification at page 10, lines 14-21:

The present invention provides novel ionomer composite compositions fortuitously useful for a heretofore unexpectedly wide range of dental applications. Such applications may range from direct restorative materials, eg. cure-in-mouth cements, to intermediary materials such as for example, liners, bases and luting cement, to preformed structure for dental and osseous tissue repair applications.

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Further, at page 13, lines 21-28, the specification states:

By varying the monomer ratio, the copolymer could vary from water soluble (suitable for direct restorative dental applications) to water insoluble (suitable for fabrication of preformed dental structure and the like). As the amount of hydrophilic monomer is increased, the copolymer (as well as the ionomer composite composition) becomes more water soluble.

As may be appreciated, the user following the Applicants' guidelines may determine the ratio of the hydrophilic monomer to hydrophobic monomer, depending on the desired application.

In sharp contrast, each of the cited references discloses only cement (i.e. water soluble) compositions. Contrary to the Examiner's assertion that the references "mention applicants' glass ionomers and polymers, among them hydrophilic-hydrophobic copolymers, which can be used in dental cement" (emphasis added), it is submitted that the mere mention (almost in passing) of copolymer(s) which may contain a hydrophobic monomer does not anticipate or render obvious Applicants' invention as defined in claims 1 and 18. None of the references, either alone or in combination, discloses a predetermined ratio of hydrophobic monomer to hydrophilic monomer to vary the composition for a variety of applications. The purpose and teaching of each of the references is to provide a composition useful for dental cement only—this actually **teaches away** from Applicants' invention as defined in claims 1 and 18. If the skilled artisan were to add any more than a very minor amount of a hydrophobic component to the compositions taught in the cited references, it is submitted that the compositions would no longer function as dental cements. As such, this would destroy the stated purpose of the patentees' inventions. Thus, it is submitted that the skilled artisan would not be led to, and in fact would be led away from forming a composition having a predetermined ratio of hydrophilic monomer to hydrophobic monomer as recited.

For all the reasons stated above, it is submitted that Applicants' invention as defined in claims 1 and 18 is not anticipated, taught or rendered obvious by the cited references, either alone or in combination, and patentably defines over the art of record.

Claims 2-17 and 19-31 depend ultimately from one of claims 1 or 18. It is submitted that, through this dependency, Applicants' invention as defined in claims 2-17 and 19-31 also is not anticipated, taught or rendered obvious by the cited references, either alone or in combination, and patentably defines over the art of record.

In summary, claims 1-31 remain in the application. New claims 32-49 have been added in order to set forth additional specific embodiments of Applicants' invention. It is submitted

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that, through this amendment, Applicants' invention as set forth in these claims is now in a condition suitable for allowance.

Further and favorable consideration is requested. If the Examiner believes it would expedite prosecution of the above-identified application, he is cordially invited to contact Applicants' Attorney at the below-listed telephone number.

Respectfully submitted,

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